UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/584,360	SATO, YASUSHI
Office Action Summary	Examiner	Art Unit	
	DOUGLAS C. GODBOLD	2626	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 May 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-81</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-81</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 May 2007</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

    1.☒ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>20071009, 20100430, 20100730</u>.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to correspondence filed May 24, 2007 in

reference to application 10/584,360. Claims 1-81 are pending and have been

examined. The application is a 371 of PCT/JP04/19426 filed December 24, 2004.

Information Disclosure Statement

2.   The Information Disclosure Statements filed October 9, 2007, April 30, 2010, and

July 30, 2010 have been accepted and considered in this office action.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 70-81 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Claims 70-81 are directed towards "programs which

allow a computer to function."   However the bodies of each claim recite various "means

for" limitations. The use of "means for" imparts the functional description of each

limitation that as found in the specification. In the instant case, the specification

describes non-volatile memory and a CPU which execute the program to implement

each limitation (see specification page 29 lines 1-7). Thus the body of the claims,

because each limitation uses "means for," claim the "means for" described in the

specification, which include hardware elements. The claims therefore consist of

programs which contain hardware elements, which cannot exist. Thus claims 70-81 are

rejected as being indefinite.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6.   Claim(s) 58-69 are rejected under 35 USC 101 as not falling within one of the

four statutory categories of invention. While the claim(s) recite a series of steps or acts

to be performed, a statutory "process" under 35 USC 101 must (1) be tied to another

statutory category (such as a manufacture or a machine), or (2) transform underlying

subject matter (such as an article or material) to a different state or thing. The instant

claim(s) neither transform underlying subject matter *(i.e., the claim does not include any*

type of physical transformation, only a manipulation of speech data. Manipulations of

data are not physical transformations) nor positively recite structure associated with

another statutory category *(i.e., the claimed process does not rely on any type of*

physical hardware and could be performed by a human. For example, the human could

recognize speech by listening to somebody talk and understanding, specify the context

by determining what command was said, and specify a process by determining what

action is associated with the command. Furthermore a user could perform the specified

command, such as turning up the volume on the radio, or manually selected navigation

functions. Although claims 58, 64, and 68 recite performing the control on the device, it

is noted that the device is ancillary to the invention. A user could perform the command by manipulating controls on the device, thus the user is performing the control, not the device. Likewise, claims 59, 61, 63, 65, 67 and 69 recite a "predetermined communication device." This too is ancillary to the claimed invention, as the communication device is used for the mere retrieval of data to be manipulated. Further, the data retrieval step can still be performed by a human by for example, looking information up in a book, which is a communication device in a broad sense.), and therefore do not define a statutory process.

7.   Claims 70-81 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 70-81 are directed towards various "programs which allow a computer to function." Thus these claims are mere software or computer code, which have been held to be non-statutory under 35 U.S.C. 101. Therefore claims 70-81 are rejected as being non-statutory.

8.   Note that claims 1-57 are NOT rejected as being non-statutory because they recite "means for" in their limitations. The use of "means for" imparts the functional description of each limitation that as found in the specification. In the instant case, the specification describes non-volatile memory and a CPU which execute the program to implement each limitation (see specification page 29 lines 1-7). Thus the claims recited hardware and are statutory.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1, 4-11, 13-20, 23-31, 33-40, 42-49, and 51-81 are rejected under 35

U.S.C. 103(a) as being unpatentable over Funk et al. (US PAP 2003/0065427) in view

of Kennewick et al. (US PAP 2004/0193420).

11.   Consider claim 1, Funk teaches a device control device (abstract) comprising:

        speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

        process execution means which specifies a content of control to be performed on

an external device to be a control target based on the specified content, and performs

the control (paragraphs 0019-0020, verbal command keywords result is the mobile unit

performing different operations, such as retrieving information or controlling radio

functions).

        Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

12.   Consider claim 4, Funk and Kennewick teach the device control device according to claim 1. Kennewick further teaches that the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which the words specified by the speech recognition means are classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context.).

13.   Consider claim 5, Funk and Kennewick teach the device control device according to claim 1. Kennewick further teaches the specifying means holds correlation

information which associates words of different meanings or different categories with

each process of the process execution means, and specifies a content of the speech

uttered by the utterer based on a combination of those words or categories which are

specified by the speech recognition means and the correlation information (the system

associates keywords with contexts, using keyword matching; 0160. In this example, the

word "temperature" is associated with two different contexts of "weather" and

"measurement." Parser uses prior probability, which must be stored to be used, to

determine the proper context. This probability information represents how probable it is

that word is associated with a context, and thus represents the correlation information

between the word and the context.).

14.   Consider claim 6, Funk and Kennewick teach the device control device according

to claim 1. Kennewick further teaches wherein the specifying means holds information

which associates words with one or more categories, and specifies a content of the

speech uttered by the utterer based on a category in which a plurality of words specified

by the speech recognition means are commonly classified (the system associates

keywords with contexts, using keyword matching; 0160. In this example, the word

"temperature" is associated with two different contexts of "weather" and "measurement."

Parser uses prior probability, which must be stored to be used, to determine the proper

context. This probability represents how commonly the word is associated with a

context).

15.   Consider claim 7, Funk and Kennewick teach the device control device according to claim 1, wherein the specifying means holds a plurality of words assigned to respective processes of the process execution means (Funk, 0019-0020, keywords are associated with various commands), and performs a corresponding process when at least one of the words specified by the speech recognition means is a word assigned to the process (Funk, 00190-0020, commands are executed based on received keywords.).

16.   Consider claim 8, the current combination of Funk and Kennewick teach the device control device according to claim 1, but does not specifically teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression.

        However, Kennewick further teaches teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression (00161, system can question the user to verify question and allow them to rephrase to remove ambiguity.).

        Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to clarify a question or a command as further taught by Kennewick, in the system of Funk and Kennewick in order to allow the system to insure an accurate response when the confidence level of a correct understanding is not high (Kennewick 0161).

17.   Consider claim 9, Funk and Kennewick teaches the device control device
according to claim 1, further comprising information acquisition means which acquires
information from an external device (Funk, 0019 and 0026, system may access
information such as stock reports and weather from a voice portal server), and wherein
the specifying means selects an output content to be output based on the information
acquired by the information acquisition means (Funk, 0019, keyword command may
also be used to access information from information accessing device either through
text or audible format.).

18.   Consider claim 10, Funk teaches a device control device (abstract) comprising:
        speech recognition means which acquires speech data representing a speech
and specifies words represented by the speech by performing speech recognition on
the speech data (paragraph 0018, speech is acquired and applied to speech recognition
is provided for command and control);
        process specifying means which specifies a content of control to be performed
on an external device to be a control target based on the specified content (paragraphs
0019-0020, verbal command keywords result is the mobile unit performing different
operations, such as retrieving information or controlling radio functions);
        information acquisition means which acquires information via predetermined
communication means (0019 and 0026, and figure 2, system may access information
such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (, 0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

19.   Consider claim 11, Funk teaches a speech recognition device (abstract)
comprising:

speech recognition means which acquires speech data representing a speech
and specifies words represented by the speech by performing speech recognition on
the speech data (paragraph 0018, speech recognition is provided for command and
control); and

process execution means which specifies a process to be performed based on
the specified content, and performs the process (paragraphs 0019-0020, verbal
command keywords result is the mobile unit performing different operations, such as
retrieving information or controlling radio functions).

Funk does not specifically teach specifying means which specifies a content of
the speech uttered by an utterer based on the words specified by the speech
recognition means.

In the same field of speech control, Kennewick teaches specifying means which
specifies a content of the speech uttered by an utterer based on the words specified by
the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a
parser to determine the context and domain of a user's command. Domain and context
correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time
of the invention use the speech parser as taught by Kennewick at the output of the
speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords
(Kennewick 0006-0007).

20.   Consider claim 13, Funk and Kennewick teach the speech recognition device
according to claim 11. Kennewick further teaches that the specifying means holds
information which associates words with one or more categories, and specifies a
content of the speech uttered by the utterer based on a category in which the words
specified by the speech recognition means are classified (the system associates
keywords with contexts, using keyword matching; 0160. In this example, the word
"temperature" is associated with two different contexts of "weather" and "measurement."
Parser uses prior probability, which must be stored to be used, to determine the proper
context.).

21.   Consider claim 14, Funk and Kennewick teach the speech recognition device
according to claim 11. Kennewick further teaches the specifying means holds
correlation information which associates words of different meanings or different
categories with each process of the process execution means, and specifies a content
of the speech uttered by the utterer based on a combination of those words or
categories which are specified by the speech recognition means and the correlation
information (the system associates keywords with contexts, using keyword matching;
0160. In this example, the word "temperature" is associated with two different contexts
of "weather" and "measurement." Parser uses prior probability, which must be stored to

be used, to determine the proper context. This probability information represents how probable it is that word is associated with a context, and thus represents the correlation information between the word and the context.).

22.   Consider claim 15, Funk and Kennewick teach the speech recognition device according to claim 11. Kennewick further teaches wherein the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which a plurality of words specified by the speech recognition means are commonly classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context. This probability represents how commonly the word is associated with a context).

23.   Consider claim 16, Funk and Kennewick teach the speech recognition device according to claim 11, wherein the specifying means holds a plurality of words assigned to respective processes of the process execution means (Funk, 0019-0020, keywords are associated with various commands), and performs a corresponding process when at least one of the words specified by the speech recognition means is a word assigned to the process (Funk, 00190-0020, commands are executed based on received keywords.).

24.   Consider claim 17, the current combination of Funk and Kennewick teach the speech recognition device according to claim 11, but does not specifically teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression.

However, Kennewick further teaches teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression (00161, system can question the user to verify question and allow them to rephrase to remove ambiguity.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to clarify a question or a command as further taught by Kennewick, in the system of Funk and Kennewick in order to allow the system to insure an accurate response when the confidence level of a correct understanding is not high (Kennewick 0161).

25.   Consider claim 18, Funk and Kennewick teaches the speech recognition device according to claim 11, further comprising information acquisition means which acquires information from an external device (Funk, 0019 and 0026, system may access information such as stock reports and weather from a voice portal server), and wherein the specifying means selects an output content to be output based on the information acquired by the information acquisition means (Funk, 0019, keyword command may

also be used to access information from information accessing device either through

text or audible format.).

26.   Consider claim 19, Funk teaches a speech recognition device (abstract)

comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech is acquired and applied to speech recognition

is provided for command and control);

process specifying means which specifies a process to be performed based on

the specified content (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, such as retrieving information or controlling

radio functions);

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (, 0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

27.   Consider claim 20, Funk teaches an agent device (abstract, provides data to

user) comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution means which specifies a process to be performed based on

the specified content, and performs the process (paragraphs 0019-0020, verbal

command keywords result is the mobile unit performing different operations, such as

retrieving information or controlling radio functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

28.   Consider claim 23, Funk and Kennewick teach the agent device according to

claim 20. Kennewick further teaches that the specifying means holds information which

associates words with one or more categories, and specifies a content of the speech

uttered by the utterer based on a category in which the words specified by the speech

recognition means are classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context.).

29.   Consider claim 24, Funk and Kennewick teach the agent device according to claim 20. Kennewick further teaches the specifying means holds correlation information which associates words of different meanings or different categories with each process of the process execution means, and specifies a content of the speech uttered by the utterer based on a combination of those words or categories which are specified by the speech recognition means and the correlation information (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context. This probability information represents how probable it is that word is associated with a context, and thus represents the correlation information between the word and the context.).

30.   Consider claim 25, Funk and Kennewick teach the agent device according to claim 20. Kennewick further teaches wherein the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which a plurality of words specified

by the speech recognition means are commonly classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context. This probability represents how commonly the word is associated with a context).

31.   Consider claim 26, Funk and Kennewick teach the agent device according to claim 20, wherein the specifying means holds a plurality of words assigned to respective processes of the process execution means (Funk, 0019-0020, keywords are associated with various commands), and performs a corresponding process when at least one of the words specified by the speech recognition means is a word assigned to the process (Funk, 00190-0020, commands are executed based on received keywords.).

32.   Consider claim 27, the current combination of Funk and Kennewick teach the agent device according to claim 20, but does not specifically teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression.

      However, Kennewick further teaches teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression (00161, system can question the user to verify question and allow them to rephrase to remove ambiguity.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to allow a user to clarify a question or a command as further taught by

Kennewick, in the system of Funk and Kennewick in order to allow the system to insure

an accurate response when the confidence level of a correct understanding is not high

(Kennewick 0161).

Consider claim 28, Funk and Kennewick teaches the agent device according to

claim 20, further comprising information acquisition means which acquires information

from an external device (Funk, 0019 and 0026, system may access information such as

stock reports and weather from a voice portal server), and wherein the specifying

means selects an output content to be output based on the information acquired by the

information acquisition means (Funk, 0019, keyword command may also be used to

access information from information accessing device either through text or audible

format.).

33.   Consider claim 29, Funk teaches the agent device according to claim 20, wherein

the specifying means includes means which, when the process specified as a process

to be performed is a process of presenting information externally received to the utterer,

performs the presentation by generating a speech which reads out the information

(0019, information may be read out to a user in an audible format. 0031 provides an

example of the spoken dialog)

34.   Consider claim 30, Funk teaches an agent device (abstract, provides data to
user) comprising:

speech recognition means which acquires speech data representing a speech
and specifies words represented by the speech by performing speech recognition on
the speech data (paragraph 0018, speech is acquired and applied to speech recognition
is provided for command and control);

process specifying means which specifies a process to be performed based on
the specified content (paragraphs 0019-0020, verbal command keywords result is the
mobile unit performing different operations, such as retrieving information or controlling
radio functions);

information acquisition means which acquires information via predetermined
communication means (0019 and 0026, and figure 2, system may access information
such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired
by the information acquisition means (0019, stock and weather information may be
output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output
information acquired by the information acquisition means, the speech output means
outputs a speech based on the information (, 0019, keyword command may be used to
access information from information accessing device either through text or audible
format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

35.   Consider claim 31, Funk teaches an on-vehicle control device so constructed as to be mountable on a vehicle having an external on-vehicle device mounted thereon (abstract, on board device, figure 6, control screen 25) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

process execution means which specifies a content of control to be performed on

the on-vehicle device to be a control target based on the specified content, and

performs the control (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, such as retrieving information or controlling

radio functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

36.   Consider claim 33, Funk and Kennewick teach the on-vehicle control device

according to claim 31. Kennewick further teaches that the specifying means holds

information which associates words with one or more categories, and specifies a

content of the speech uttered by the utterer based on a category in which the words

specified by the speech recognition means are classified (the system associates

keywords with contexts, using keyword matching; 0160. In this example, the word

"temperature" is associated with two different contexts of "weather" and "measurement."

Parser uses prior probability, which must be stored to be used, to determine the proper

context.).

37.   Consider claim 34, Funk and Kennewick teach the on-vehicle control device

according to claim 31. Kennewick further teaches the specifying means holds

correlation information which associates words of different meanings or different

categories with each process of the process execution means, and specifies a content

of the speech uttered by the utterer based on a combination of those words or

categories which are specified by the speech recognition means and the correlation

information (the system associates keywords with contexts, using keyword matching;

0160. In this example, the word "temperature" is associated with two different contexts

of "weather" and "measurement." Parser uses prior probability, which must be stored to

be used, to determine the proper context. This probability information represents how

probable it is that word is associated with a context, and thus represents the correlation

information between the word and the context.).

38.   Consider claim 35, Funk and Kennewick teach the on-vehicle control device

according to claim 31. Kennewick further teaches wherein the specifying means holds

information which associates words with one or more categories, and specifies a
content of the speech uttered by the utterer based on a category in which a plurality of
words specified by the speech recognition means are commonly classified (the system
associates keywords with contexts, using keyword matching; 0160. In this example, the
word "temperature" is associated with two different contexts of "weather" and
"measurement." Parser uses prior probability, which must be stored to be used, to
determine the proper context. This probability represents how commonly the word is
associated with a context).

39.   Consider claim 36, Funk and Kennewick teach the on-vehicle control device
according to claim 31, wherein the specifying means holds a plurality of words assigned
to respective processes of the process execution means (Funk, 0019-0020, keywords
are associated with various commands), and performs a corresponding process when
at least one of the words specified by the speech recognition means is a word assigned
to the process (Funk, 00190-0020, commands are executed based on received
keywords.).

40.   Consider claim 37, the current combination of Funk and Kennewick teach the
device control device according to claim 31, but does not specifically teach when a
meaning of an input speech is not discriminatable, the specifying means prompts an
input in a more discriminatable expression.

However, Kennewick further teaches teach when a meaning of an input speech is not discriminatable, the specifying means prompts an input in a more discriminatable expression (00161, system can question the user to verify question and allow them to rephrase to remove ambiguity.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to clarify a question or a command as further taught by Kennewick, in the system of Funk and Kennewick in order to allow the system to insure an accurate response when the confidence level of a correct understanding is not high (Kennewick 0161).

41.   Consider claim 38, Funk and Kennewick teaches the on-vehicle control device according to claim 31, further comprising information acquisition means which acquires information from an external device (Funk, 0019 and 0026, system may access information such as stock reports and weather from a voice portal server), and wherein the specifying means selects an output content to be output based on the information acquired by the information acquisition means (Funk, 0019, keyword command may also be used to access information from information accessing device either through text or audible format.).

42.   Consider claim 39, Funk teaches an on-vehicle control device so constructed as to be mountable on a vehicle having an external on-vehicle device mounted thereon (abstract, on board device, figure 6, control screen 25) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

process specifying means which specifies a content of control to be performed on the on-vehicle device to be a control target based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions);

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

43.   Consider claim 40, Funk teaches a navigation device so constructed to be mountable on a vehicle (abstract, figure 5 unit 25) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

process execution means which specifies a navigation process to be performed based on the specified content, and performs the navigation process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, navigation control functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

44.   Consider claim 42, Funk and Kennewick teach the navigation device according to

claim 40. Kennewick further teaches that the specifying means holds information which

associates words with one or more categories, and specifies a content of the speech

uttered by the utterer based on a category in which the words specified by the speech

recognition means are classified (the system associates keywords with contexts, using

keyword matching; 0160. In this example, the word "temperature" is associated with

two different contexts of "weather" and "measurement." Parser uses prior probability,

which must be stored to be used, to determine the proper context.).

45.   Consider claim 43, Funk and Kennewick teach the navigation device according to claim 40. Kennewick further teaches the specifying means holds correlation information which associates words of different meanings or different categories with each process of the process execution means, and specifies a content of the speech uttered by the utterer based on a combination of those words or categories which are specified by the speech recognition means and the correlation information (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context. This probability information represents how probable it is that word is associated with a context, and thus represents the correlation information between the word and the context.).

46.   Consider claim 44, Funk and Kennewick teach the navigation device according to claim 40. Kennewick further teaches wherein the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which a plurality of words specified by the speech recognition means are commonly classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper

context. This probability represents how commonly the word is associated with a

context).

47.   Consider claim 45, Funk and Kennewick teach the navigation device according to

claim 40, wherein the specifying means holds a plurality of words assigned to respective

processes of the process execution means (Funk, 0019-0020, keywords are associated

with various commands), and performs a corresponding process when at least one of

the words specified by the speech recognition means is a word assigned to the process

(Funk, 00190-0020, commands are executed based on received keywords.).

48.   Consider claim 46, the current combination of Funk and Kennewick teach the

navigation device according to claim 40, but does not specifically teach when a meaning

of an input speech is not discriminatable, the specifying means prompts an input in a

more discriminatable expression.

        However, Kennewick further teaches teach when a meaning of an input speech

is not discriminatable, the specifying means prompts an input in a more discriminatable

expression (00161, system can question the user to verify question and allow them to

rephrase to remove ambiguity.).

        Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to allow a user to clarify a question or a command as further taught by

Kennewick, in the system of Funk and Kennewick in order to allow the system to insure

an accurate response when the confidence level of a correct understanding is not high

(Kennewick 0161).

49.   Consider claim 47, Funk and Kennewick teaches the navigation device according

to claim 40, further comprising information acquisition means which acquires

information from an external device (Funk, 0019 and 0026, system may access

information such as stock reports and weather from a voice portal server), and wherein

the specifying means selects an output content to be output based on the information

acquired by the information acquisition means (Funk, 0019, keyword command may

also be used to access information from information accessing device either through

text or audible format.).

50.   Consider claim 48, Funk teaches a navigation device so constructed as to be

mountable on a vehicle (abstract, on board device, figure 6, control screen 25)

comprising:

        speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech is acquired and applied to speech recognition

is provided for command and control);

        process specifying means which specifies a content of a navigation process to be

performed based on the specified content (paragraphs 0019-0020, verbal command

keywords result is the mobile unit performing different operations, such as navigation

functions);

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

51.   Consider claim 49, Funk teaches an audio device (abstract, voice communicator)

comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution means which specifies a content of a speech process to be

performed based on the specified content, and performs the speech process, or

controls an external device in such a way as to cause the external device to perform the

speech process (paragraphs 0019-0020, verbal command keywords result is the mobile

unit performing different operations, including retrieving information, which may be

presented in audible form through speech. Also see 0031 for an example of a speech

dialog).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

52.   Consider claim 51, Funk and Kennewick teach the audio device according to claim 49. Kennewick further teaches that the specifying means holds information which associates words with one or more categories, and specifies a content of the speech uttered by the utterer based on a category in which the words specified by the speech recognition means are classified (the system associates keywords with contexts, using keyword matching; 0160. In this example, the word "temperature" is associated with two different contexts of "weather" and "measurement." Parser uses prior probability, which must be stored to be used, to determine the proper context.).

53.   Consider claim 52, Funk and Kennewick teach the audio device according to claim 49. Kennewick further teaches the specifying means holds correlation information

which associates words of different meanings or different categories with each process

of the process execution means, and specifies a content of the speech uttered by the

utterer based on a combination of those words or categories which are specified by the

speech recognition means and the correlation information (the system associates

keywords with contexts, using keyword matching; 0160. In this example, the word

"temperature" is associated with two different contexts of "weather" and "measurement."

Parser uses prior probability, which must be stored to be used, to determine the proper

context. This probability information represents how probable it is that word is

associated with a context, and thus represents the correlation information between the

word and the context.).

54.   Consider claim 53, Funk and Kennewick teach the audio device according to

claim 49. Kennewick further teaches wherein the specifying means holds information

which associates words with one or more categories, and specifies a content of the

speech uttered by the utterer based on a category in which a plurality of words specified

by the speech recognition means are commonly classified (the system associates

keywords with contexts, using keyword matching; 0160. In this example, the word

"temperature" is associated with two different contexts of "weather" and "measurement."

Parser uses prior probability, which must be stored to be used, to determine the proper

context. This probability represents how commonly the word is associated with a

context).

55.   Consider claim 54, Funk and Kennewick teach the audio device according to
claim 49, wherein the specifying means holds a plurality of words assigned to respective
processes of the process execution means (Funk, 0019-0020, keywords are associated
with various commands), and performs a corresponding process when at least one of
the words specified by the speech recognition means is a word assigned to the process
(Funk, 00190-0020, commands are executed based on received keywords.).

56.   Consider claim 55, the current combination of Funk and Kennewick teach the
audio device according to claim 49, but does not specifically teach when a meaning of
an input speech is not discriminatable, the specifying means prompts an input in a more
discriminatable expression.

       However, Kennewick further teaches teach when a meaning of an input speech
is not discriminatable, the specifying means prompts an input in a more discriminatable
expression (00161, system can question the user to verify question and allow them to
rephrase to remove ambiguity.).

       Therefore it would have been obvious to one of ordinary skill in the art at the time
of the invention to allow a user to clarify a question or a command as further taught by
Kennewick, in the system of Funk and Kennewick in order to allow the system to insure
an accurate response when the confidence level of a correct understanding is not high
(Kennewick 0161).

57.　　Consider claim 56, Funk and Kennewick teaches the audio device according to

claim 49, further comprising information acquisition means which acquires information

from an external device (Funk, 0019 and 0026, system may access information such as

stock reports and weather from a voice portal server), and wherein the specifying

means selects an output content to be output based on the information acquired by the

information acquisition means (Funk, 0019, keyword command may also be used to

access information from information accessing device either through text or audible

format.).

58.　　Consider claim 57, Funk teaches an audio device (abstract, voice communicator)

comprising:

　　　　speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

　　　　process execution means which specifies a content of a speech process to be

performed based on the specified content (paragraphs 0019-0020, verbal command

keywords result is the mobile unit performing different operations, including retrieving

information, which may be presented in audible form through speech. Also see 0031 for

an example of a speech dialog),

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords
(Kennewick 0006-0007).

59.   Consider claim 58, Funk teaches a device control method (abstract) comprising:

     a speech recognition step of acquiring speech data representing a speech and
specifying words represented by the speech by performing speech recognition on the
speech data (paragraph 0018, speech recognition is provided for command and
control); and

     a process execution step of specifying a content of control to be performed on an
external device to be a control target based on the specified content, and performing the
control (paragraphs 0019-0020, verbal command keywords result is the mobile unit
performing different operations, such as retrieving information or controlling radio
functions).

     Funk does not specifically teach a specifying execution step specifying a content
of the speech uttered by an utterer based on the words specified by the speech
recognition step.

     In the same field of speech control, Kennewick teaches specifying step of
specifying a content of the speech uttered by an utterer based on the words specified by
the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a
parser to determine the context and domain of a user's command. Domain and context
correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the method of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

60.   Consider claim 59, Funk teaches a device control method (abstract) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

a process specifying step of specifying a content of control to be performed on an external device to be a control target based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions);

an information acquisition step of acquiring information via predetermined communication device (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired by the information acquisition step (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying step is to output information acquired by the information acquisition step, the speech output step outputs a speech based on the information (, 0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step.

In the same field of speech control, Kennewick teaches a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

61.   Consider claim 60, Funk teaches a speech recognition method (abstract) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

a process execution step of specifying a process to be performed based on the specified content, and performing the process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions).

Funk does not specifically teach a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

62.   Consider claim 61, Funk teaches a speech recognition method (abstract)

comprising:

a speech recognition step of acquiring speech data representing a speech and

specifying words represented by the speech by performing speech recognition on the

speech data (paragraph 0018, speech is acquired and applied to speech recognition is

provided for command and control);

a process specifying step of specifying a process to be performed based on the

specified content (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, such as retrieving information or controlling

radio functions);

an information acquisition step of acquiring information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputing a speech based on the information acquired by

the information acquisition means (0019, stock and weather information may be output

to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying step is to output

information acquired by the information acquisition step, the speech output step outputs

a speech based on the information (, 0019, keyword command may be used to access

information from information accessing device either through text or audible format.

0031 provides an example of the spoken dialog).

Funk does not specifically teach a specifying step of specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition step.

In the same field of speech control, Kennewick teaches a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

63.   Consider claim 62, Funk teaches an agent processing method (abstract, provides data to user) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

a process execution step of specifying a process to be performed based on the specified content, and performing the process (paragraphs 0019-0020, verbal command

keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions).

Funk does not specifically teach a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step.

In the same field of speech control, Kennewick teaches a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

64.   Consider claim 63, Funk teaches an agent processing method (abstract, provides data to user) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

a process specifying step of specifying a process to be performed based on the

specified content (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, such as retrieving information or controlling

radio functions);

an information acquisition step of acquiring information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying step is to output

information acquired by the information acquisition means, the speech output step

outputs a speech based on the information (, 0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach a specifying step of specifying a content of the

speech uttered by an utterer based on the words specified by the speech recognition

step.

In the same field of speech control, Kennewick teaches a specifying step of

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

65.   Consider claim 64, Funk teaches an on-vehicle control method for controlling an on vehicle device mounted on a vehicle (abstract, on board device, figure 6, control screen 25) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

a process execution step of specifying a content of control to be performed on the on-vehicle device to be a control target based on the specified content, and performing the control (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions).

Funk does not specifically teach a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step.

In the same field of speech control, Kennewick teaches a specifying step of specifiying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

66.   Consider claim 65, Funk teaches an on-vehicle control method for controlling an on vehicle device mounted on a vehicle (abstract, on board device, figure 6, control screen 25) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

a process specifying step of specifying a content of control to be performed on the on-vehicle device to be a control target based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions);

an information acquisition step of acquiring information via predetermined communication device (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired by the information acquisition step (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying steps is to output information acquired by the information acquisition step, the speech output step outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not a specifically teach specifying step of specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches s a pecifying step of specifiying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

67.   Consider claim 66, Funk teaches a navigation method (abstract, figure 5 unit 25) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

a process execution step of specifying a navigation process to be performed based on the specified content, and performing the navigation process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, navigation control functions).

Funk does not specifically teach a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step.

In the same field of speech control, Kennewick teaches a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

68.   Consider claim 67, Funk teaches a navigation method (abstract, on board device, figure 6, control screen 25) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

a process specifying step of specifying a content of a navigation process to be performed based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as navigation functions);

an information acquisition step of acquiring information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputting a speech based on the information acquired

by the information acquisition step (0019, stock and weather information may be output

to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying step is to output

information acquired by the information acquisition step, the speech output step outputs

a speech based on the information (0019, keyword command may be used to access

information from information accessing device either through text or audible format.

0031 provides an example of the spoken dialog).

Funk does not specifically teach a specifying step of specifying a content of the

speech uttered by an utterer based on the words specified by the speech recognition

step.

In the same field of speech control, Kennewick teaches a specifying step of

specifying a content of the speech uttered by an utterer based on the words specified by

the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

69.   Consider claim 68, Funk teaches an audio device control method (abstract, voice

communicator) comprising:

a speech recognition step of acquiring speech data representing a speech and

specifying words represented by the speech by performing speech recognition on the

speech data (paragraph 0018, speech recognition is provided for command and

control); and

a process execution step of specifying a content of a speech process to be

performed based on the specified content, and performing the speech process, or

controling an external device in such a way as to cause the external device to perform

the speech process (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, including retrieving information, which may

be presented in audible form through speech. Also see 0031 for an example of a

speech dialog).

Funk does not specifically teach a specifying step of specifying a content of the

speech uttered by an utterer based on the words specified by the speech recognition

step.

In the same field of speech control, Kennewick teaches a specifying step of

specifying a content of the speech uttered by an utterer based on the words specified by

the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

70.   Consider claim 69, Funk teaches an audio device control method (abstract, voice communicator) comprising:

a speech recognition step of acquiring speech data representing a speech and specifying words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

a process execution step of specifying a content of a speech process to be performed by an external audio device based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, including retrieving information, which may be presented in audible form through speech. Also see 0031 for an example of a speech dialog),

an information acquisition step of acquiring information via predetermined communication device (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

a speech output step of outputs a speech based on the information acquired by the information acquisition step (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying step is to output information acquired by the information acquisition step, the speech output step outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step.

In the same field of speech control, Kennewick teaches a specifying step of specifying a content of the speech uttered by an utterer based on the words specified by the speech recognition step (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

71.   Consider claim 70, Funk teaches a program which allows a computer to function

as a device control device (abstract; 0018 discussing implementing using software)

comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution means which specifies a content of control to be performed on

an external device to be a control target based on the specified content, and performs

the control (paragraphs 0019-0020, verbal command keywords result is the mobile unit

performing different operations, such as retrieving information or controlling radio

functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

72.   Consider claim 71, Funk teaches a program which allows a computer to function

as a device control device (abstract; 0018 discussing implementing using software)

comprising:

        speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech is acquired and applied to speech recognition

is provided for command and control);

        process specifying means which specifies a content of control to be performed

on an external device to be a control target based on the specified content (paragraphs

0019-0020, verbal command keywords result is the mobile unit performing different

operations, such as retrieving information or controlling radio functions);

        information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

        speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (, 0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

73.   Consider claim 72, Funk teaches a program which allows a computer to function as a speech recognition device (abstract; 0018 discussing implementing using software) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

process execution means which specifies a process to be performed based on the specified content, and performs the process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

74.   Consider claim 73, Funk teaches a program which allows a computer to function

as a speech recognition device (abstract; 0018 discussing implementing using software)

comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech is acquired and applied to speech recognition

is provided for command and control);

process specifying means which specifies a process to be performed based on

the specified content (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, such as retrieving information or controlling

radio functions);

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (, 0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

75.   Consider claim 74, Funk teaches a program which allows a computer to function

as an agent device (abstract provides data to user; 0018 discussing implementing using

software) comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

process execution means which specifies a process to be performed based on the specified content, and performs the process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

76.   Consider claim 75, Funk teaches a program which allows a computer to function as an agent device (abstract provides data to user; 0018 discussing implementing using software) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

process specifying means which specifies a process to be performed based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, such as retrieving information or controlling radio functions);

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (, 0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

77.   Consider claim 76, Funk teaches a program which allows a computer to function as an on-vehicle control device so constructed as to be mountable on a vehicle having an external on-vehicle device mounted thereon (abstract on board device, figure 6, control screen 25; 0018 discussing implementing using software) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

process execution means which specifies a content of control to be performed on the on-vehicle device to be a control target based on the specified content, and performs the control (paragraphs 0019-0020, verbal command keywords result is the

mobile unit performing different operations, such as retrieving information or controlling

radio functions).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

78.   Consider claim 77, Funk teaches a program which allows a computer to function

as an on-vehicle control device so constructed as to be mountable on a vehicle having

an external on-vehicle device mounted thereon (abstract on board device, figure 6,

control screen 25; 0018 discussing implementing using software), comprising:

speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech is acquired and applied to speech recognition

is provided for command and control);

process specifying means which specifies a content of control to be performed

on the on-vehicle device to be a control target based on the specified content

(paragraphs 0019-0020, verbal command keywords result is the mobile unit performing

different operations, such as retrieving information or controlling radio functions);

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context

correspond to what the user is actually asking for.).

   Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention use the speech parser as taught by Kennewick at the output of the

speech recognition in the system of Funk in order to allow the system to better

understand natural language queries, and reduce the need for the use of keywords

(Kennewick 0006-0007).

79.   Consider claim 78, Funk teaches a program which allows a computer to function

as a navigation device so constructed to be mountable on a vehicle (abstract, figure 5

unit 25; 0018 discussing implementing using software) comprising:

   speech recognition means which acquires speech data representing a speech

and specifies words represented by the speech by performing speech recognition on

the speech data (paragraph 0018, speech recognition is provided for command and

control); and

   process execution means which specifies a navigation process to be performed

based on the specified content, and performs the navigation process (paragraphs 0019-

0020, verbal command keywords result is the mobile unit performing different

operations, navigation control functions).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

80.   Consider claim 79, Funk teaches a program which allows a computer to function as a navigation device so constructed to be mountable on a vehicle (abstract, figure 5 unit 25; 0018 discussing implementing using software) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech is acquired and applied to speech recognition is provided for command and control);

process specifying means which specifies a content of a navigation process to be

performed based on the specified content (paragraphs 0019-0020, verbal command

keywords result is the mobile unit performing different operations, such as navigation

functions);

information acquisition means which acquires information via predetermined

communication means (0019 and 0026, and figure 2, system may access information

such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired

by the information acquisition means (0019, stock and weather information may be

output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output

information acquired by the information acquisition means, the speech output means

outputs a speech based on the information (0019, keyword command may be used to

access information from information accessing device either through text or audible

format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of

the speech uttered by an utterer based on the words specified by the speech

recognition means.

In the same field of speech control, Kennewick teaches specifying means which

specifies a content of the speech uttered by an utterer based on the words specified by

the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

81.   Consider claim 80, Funk teaches a program which allows a computer to function as an audio device (abstract, voice communicator; 0018 discussing implementing using software) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

process execution means which specifies a content of a speech process to be performed based on the specified content, and performs the speech process, or controls an external device in such a way as to cause the external device to perform the speech process (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, including retrieving information, which may be presented in audible form through speech. Also see 0031 for an example of a speech dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

82.   Consider claim 81, Funk teaches a program which allows a computer to function as an audio device (abstract, voice communicator; 0018 discussing implementing using software) comprising:

speech recognition means which acquires speech data representing a speech and specifies words represented by the speech by performing speech recognition on the speech data (paragraph 0018, speech recognition is provided for command and control); and

process execution means which specifies a content of a speech process to be performed based on the specified content (paragraphs 0019-0020, verbal command keywords result is the mobile unit performing different operations, including retrieving information, which may be presented in audible form through speech. Also see 0031 for an example of a speech dialog),

information acquisition means which acquires information via predetermined communication means (0019 and 0026, and figure 2, system may access information such as stock reports and weather from a voice portal server via a call); and

speech output means which outputs a speech based on the information acquired by the information acquisition means (0019, stock and weather information may be output to the driver in an audible format, which would be speech),

whereby when the control specified by the process specifying means is to output information acquired by the information acquisition means, the speech output means outputs a speech based on the information (0019, keyword command may be used to access information from information accessing device either through text or audible format. 0031 provides an example of the spoken dialog).

Funk does not specifically teach specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means.

In the same field of speech control, Kennewick teaches specifying means which specifies a content of the speech uttered by an utterer based on the words specified by the speech recognition means (paragraphs 0160-0161, speech tokens are passed to a

parser to determine the context and domain of a user's command. Domain and context correspond to what the user is actually asking for.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention use the speech parser as taught by Kennewick at the output of the speech recognition in the system of Funk in order to allow the system to better understand natural language queries, and reduce the need for the use of keywords (Kennewick 0006-0007).

83.   Claims 2, 3, 12, 21, 22, 32, 41, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funk and Kennewick as applied to claims 1, 11, 20, 31, 40, and 49 above, and further in view of Potter (US Patent 5,729,659).

84.   Consider claim 2, Funk and Kennewick teach the device control device according to claim 1, but does not specifically teach the speech recognition means includes speech part specifying means which specifies a part of speech of the specified words, and

the specifying means specifies a content of the speech uttered by the utterer based only on those of the words specified by the speech recognition means which are specified as a predetermined part of speech.

In the same field of speech control, Potter teaches speech recognition means includes speech part specifying means which specifies a part of speech of the specified

words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of speech, and context information is generated), and

the specifying means specifies a content of the speech uttered by the utterer based only on those of the words specified by the speech recognition means which are specified as a predetermined part of speech (column 13 lines 35-45 show how Part of Speech information is used to help determine content of an input. Because every word is assigned part of speech, only those words assigned are used to specify context, even those every word may be used to specify context).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to determine Part of Speech information as taught by Potter in the system of Funk and Kennewick in order to allow the system to determine the meaning of each word, which may very depending on the part of speech, as some words may have multiple parts of speech depending on usage (Potter column 13 lines 45-55).

85.   Consider claim 3, Funk, Kennewick, and Potter teach the device control device according to claim 2, wherein the specifying means discriminates whether or not a combination of a plurality of words in the words specified by the speech recognition means which is specified as a predetermined part of speech (Potter column 13 lines 35-45 show how Part of Speech information is used to help determine content of an input. Because every word is assigned part of speech, only those words assigned are used to specify context, even those every word may be used to specify context) meets a predetermined condition (Kennewick, 0160-0161, possible context are scored, and the

most likely is determined. In this case, a context being the most likely candidate is the

predetermined condition for its output.), and specifies a content of the speech uttered by

the utterer based on a discrimination result (Kennewick, 0160-0161, possible context

are scored, and the most likely is determined. In this case, a context being the most

likely candidate is the predetermined condition for its output).

86.   Consider claim 12, Funk and Kennewick teach the speech recognition device

according to claim 11, but does not specifically teach the speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words, and

the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech.

In the same field of speech control, Potter teaches speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of

speech, and context information is generated), and

the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech (column 13 lines 35-45 show how Part of

Speech information is used to help determine content of an input. Because every word

is assigned part of speech, only those words assigned are used to specify context, even those every word may be used to specify context).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to determine Part of Speech information as taught by Potter in the system of Funk and Kennewick in order to allow the system to determine the meaning of each word, which may very depending on the part of speech, as some words may have multiple parts of speech depending on usage (Potter column 13 lines 45-55).

87.   Consider claim 21, Funk and Kennewick teach the agent device according to claim 20, but does not specifically teach the speech recognition means includes speech part specifying means which specifies a part of speech of the specified words, and

the specifying means specifies a content of the speech uttered by the utterer based only on those of the words specified by the speech recognition means which are specified as a predetermined part of speech.

In the same field of speech control, Potter teaches speech recognition means includes speech part specifying means which specifies a part of speech of the specified words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of speech, and context information is generated), and

the specifying means specifies a content of the speech uttered by the utterer based only on those of the words specified by the speech recognition means which are specified as a predetermined part of speech (column 13 lines 35-45 show how Part of Speech information is used to help determine content of an input. Because every word

is assigned part of speech, only those words assigned are used to specify context, even those every word may be used to specify context).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to determine Part of Speech information as taught by Potter in the system of Funk and Kennewick in order to allow the system to determine the meaning of each word, which may very depending on the part of speech, as some words may have multiple parts of speech depending on usage (Potter column 13 lines 45-55).

88.   Consider claim 22, Funk, Kennewick, and Potter teach the agent device according to claim 21, wherein the specifying means discriminates whether or not a combination of a plurality of words in the words specified by the speech recognition means which is specified as a predetermined part of speech (Potter column 13 lines 35-45 show how Part of Speech information is used to help determine content of an input. Because every word is assigned part of speech, only those words assigned are used to specify context, even those every word may be used to specify context) meets a predetermined condition (Kennewick, 0160-0161, possible context are scored, and the most likely is determined. In this case, a context being the most likely candidate is the predetermined condition for its output.), and specifies a content of the speech uttered by the utterer based on a discrimination result (Kennewick, 0160-0161, possible context are scored, and the most likely is determined. In this case, a context being the most likely candidate is the predetermined condition for its output).

89.   Consider claim 32, Funk and Kennewick teach the on-vehicle control device

according to claim 31, but does not specifically teach the speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words, and

the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech.

In the same field of speech control, Potter teaches speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of

speech, and context information is generated), and

the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech (column 13 lines 35-45 show how Part of

Speech information is used to help determine content of an input. Because every word

is assigned part of speech, only those words assigned are used to specify context, even

those every word may be used to specify context).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to determine Part of Speech information as taught by Potter in the

system of Funk and Kennewick in order to allow the system to determine the meaning

of each word, which may very depending on the part of speech, as some words may

have multiple parts of speech depending on usage (Potter column 13 lines 45-55).

90.   Consider claim 41, Funk and Kennewick teach the navigation device according to

claim 40, but does not specifically teach the speech recognition means includes speech

part specifying means which specifies a part of speech of the specified words, and

        the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech.

        In the same field of speech control, Potter teaches speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of

speech, and context information is generated), and

        the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech (column 13 lines 35-45 show how Part of

Speech information is used to help determine content of an input. Because every word

is assigned part of speech, only those words assigned are used to specify context, even

those every word may be used to specify context).

        Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to determine Part of Speech information as taught by Potter in the

system of Funk and Kennewick in order to allow the system to determine the meaning

of each word, which may very depending on the part of speech, as some words may

have multiple parts of speech depending on usage (Potter column 13 lines 45-55).

91.   Consider claim 50, Funk and Kennewick teach the audio device according to

claim 49, but does not specifically teach the speech recognition means includes speech

part specifying means which specifies a part of speech of the specified words, and

        the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech.

        In the same field of speech control, Potter teaches speech recognition means

includes speech part specifying means which specifies a part of speech of the specified

words (column 13 line 45-collum 14 line 20, each word in an input is assigned a part of

speech, and context information is generated), and

        the specifying means specifies a content of the speech uttered by the utterer

based only on those of the words specified by the speech recognition means which are

specified as a predetermined part of speech (column 13 lines 35-45 show how Part of

Speech information is used to help determine content of an input. Because every word

is assigned part of speech, only those words assigned are used to specify context, even

those every word may be used to specify context).

        Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to determine Part of Speech information as taught by Potter in the

system of Funk and Kennewick in order to allow the system to determine the meaning

of each word, which may very depending on the part of speech, as some words may

have multiple parts of speech depending on usage (Potter column 13 lines 45-55).

Conclusion

92.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure is listed in the Notice of References Cited.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DOUGLAS C. GODBOLD whose telephone number is

(571)270-1451. The examiner can normally be reached on Monday-Thursday 7:00am-

4:30pm Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

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/Douglas C Godbold/
Examiner, Art Unit 2626